2/2 007 UNCLASSIFIED PROCESSING DATE--18SEP70
CIRC ACCESSION NO--ANO100626
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON APRIL 22, A REFRIGERATION
TRANLER, THE "ASTANKUL SHARIKOV" WAS LAUNCHED AT THE VOLGOGRAD
SHIPBUILDING FACTORY. IT WILL OPERATE IN THE ARAVIAN SEA.

UDC 617-001.28-07:616.153.756-092:616.36-07

DOROFEYEV. V. M., ZYABLITSKIY, V. M., SOBOLEVA, E. L., and NESTAYKO, G. V., Institute of Medical Radiology, Academy of Medical Sciences USSR, Obninsk

"Role of the Liver in the Mechanism of Lowering the Blood Serotonin Level in Acute Radiation Sickness"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1973, pp 33-314

Abstract: In rabbits irradiated once at 600 r ($\rm Co^{60}$ gamma rays, dose rate 120 r/min), the serotonin concentration in the portal vein was the same as in the control, showing that the entry of serotonin from the argentaffine cells into the blood was not blocked at the height of acute radiation sickness. However, the serotonin concentration in the vena cave inferior was almost half that in the portal vein. This suggests that at the height of acute radiation sickness a substantial part of the serotin coming from the intestine was destroyed in the liver before reaching the blood by monamine oxidase whose activity in the liver increased sharply in the irradiated animals.

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MATERIAL PROPERTY OF THE PROPE

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DOROFEYEV, V. M., and NESTAYKO, G. V., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 10, 1971, pp 21-24

and qualitative changes in the thrombocytes. The decrease that occurs in the serotonin concentration of thrombocytes after irradiation is apparently caused by an increase in the number of blood platelets with a low content of the amine.

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UDC 616-001.28-092.9-07:[616.153.757+616.155.25-008.937.57

APPROVED FOR RELEASE TAYED 19/2001, Sc. CLA+RDP86-90513R002200710008-1"
Department of Radiation Jathophysiology, Sc. Cla+RDP86-90513R002200710008-1" Medical Radiology, Academy of Medical Sciences USSR, Obninsk

"Change in Blood Serotinin Level and 5-HT-Organelles in Rabbit Thrombocytes During Acute Radiation Sickness"

Moscow, Byulleten' Eksperimental noy Biologii i Meditsiny, No 10, 1971, pp 21-24

Abstract: The blood serotinin concentration of rabbits decreased 35% and 50% on days 1 and 4, respectively, after whole-body gamma irradiation (600 r, 140 r/min), and by day 10 it was one-tenth that of the control. The decrease in thrombocyte count at various times after irradiation was not as pronounced. The serotoninopenia was caused not only by a reduction in the number of blood platelets, but by a decrease in the serotonin concentration of the thrombocytes themselves, as indicated by the sharper drop in serotonin level compared with the thrombocytopenia and by the slower restoration of the serotonin concentration (by day 21, 66% of the control and same as the control, respectively). A count of 5-HT- (5-hydrcxytryptamine) organelles also indicated a decrease in the serotonin content of the thrombocytes. There was both a decrease in the number of serotonin granules at the different stages of acute radiation sickness - 73 -1/2

UDC 616-001.28-036.11-07:616.155.25-007

DOROFFYEV. V. M., ZYABLITSKIY, V. M., and NESTAYKO, G. V., Laboratory of Experimental Hematology, Division of Radiation Pathophysiology and Group of Electron Microscopy, Scientific Research Institute of Medical Radiology, Academy of Medical Sciences USSR, Obninsk

"Changes in Thrombocyte Aggregation Brought About by ADP and Serotonin in Acute Radiation Sickness"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 72, No 11, Nov 71, pp 32-34

Abstract: Changes in the aggregation of thrombocytes under the effects of ADP and serotonin were studied in experiments on rabbits subjected to irradiation with gamma-rays in a dose of 600 R. The aggregation of thrombocytes under the effect of ADP was significantly lowered on the 1st, 7th, and 15th day after irradiation and the thrombocyte aggregates became less stable vs. those for control animals. The aggregation of thrombocytes under the action of serotonin was lowered only at the peak of radiation sickness (on the 7th day after irradiation). The reduced capacity of thrombocytes to be aggregated under the effect of serotonin was presumably associated with a reduction in the amount of 5-0T-receptors or a change in the state of these membrane structures.

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USSR

UDC: 621.327.061

DOROFEYEV, V. M.

"On Analysis of a Demodulator With Frequency Feedback"

V sb. Metody pomekhoustovchivogo privema ChM i FM (Methods of Interference--Free FM and PM Reception--collection of works), Moscow, "Sov. radio", 1970, pp 80-87 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12Alh4)

Translation: The author points out the disadvantages of using approximate models to analyze systems with frequency feedback. Consideration is given to the operation of a demodulator with frequency feedback when the input is subjected to a mixture of an FM signal and narrow-band Gaussian noise. Differential equations are derived for the case of active feedback and for the case of frequency feedback with an RC filter, and a Fokker-Planck equation is found for frequency feedback with active feedback. Solution of the last equation is analyzed for the case of small noises. The given equations can be used to study the general properties of demodulators as well as the statistical characteristics of frequency feedback. One illustration, bibliography of seven titles. N. S.

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UDC: {621.391.82-758.37[621.396.62:621.376.31}(088.8)

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AFANAS'YEV, Yu. A., DOROFEYEV, V. M.

USSR

"A Device for Suppressing Threshold Noises"

USSR Author's Certificate No 270006, filed 19 Aug 68, published 13 Aug 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A274 P)

Translation: The device covered by this patent is designed for reducing threshold noises in FM signal receivers which operate under conditions of strong jitter or periodic interference. Connected at the output of the frequency detector is a diode bridge with a memory unit; the diagonal of the bridge with unilateral conductivity is connected to the output of a transistorized paraphase amplifier-clipper. Receiver threshold noises are due to phase jumps at the input by 2m radians accompanied by an abrupt voltage drop at the input. In the absence of a phase jump, the drop in voltage across the input is slight, the transistor in the amplifier is blocked, the bridge is open. The signal voltage from the frequency detector is fed through the open diode bridge to the receiver output. When a 2m jump in phase occurs, the voltage drop across the output of the amplitude detector opens the transistor in the amplifier for the time when the jump is in effect. The pulse at the amplifier output closes the diode switch 1/2

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USSR

AFANAS'YEV, Yu. A., DOROFEYEV, V. M., USSR Author's Certificate No 270006

for the same time period. The memory unit retains a voltage equal to that of the signal at the instant preceding the jump. By "chopping" the pulses, the device reduces the power of threshold noises. A. K.

2/2

-48 -



UDC 616-001.28-036.11-092.9-07:616.151.5-02:615.362.018:547.757

DOROFEYEV, V. M. and KHNYCHEV, S. S., Laboratory of Experimental Hematology, Department of Radiation Pathophysiology, Institute of Medical Radiology, Academy of Medical Sciences USSR, Obminsk

"The Effect of Exogenous Serotonin on the Aggregation of Blood Platelets and on Some Indices of Blood Coagulation in Experimental Actue Radiation Sickness"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 6, 1970, pp 21-23

Abstract: Injection of serotonin (0.1 mg/kg) into rats on the seventh day after exposure to gamma-irradiation (600 r) increased its concentration in the blood of experimental animals to the level observed in healthy rats, but had no effect on the aggregation of blood platelets or on such hematological indices as activity of factor XIII, plasma recalcification time, or the prothrombin time. It would appear, then, that impairment of the process of aggregation of blood platelets in acute radiation sickness is unrelated to the decrease in blood serotonin associated with this disorder. This bears out the view that serotonin in physiological doses not play an important part in blood coagulation.

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Instruments and Measurements

UDC 621.396.669

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AFANAS'YEV, YU. A., DOZOFEYEV, V. M.

"Threshold Noise Suppression Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 16, 8 May 70, p 38, Patent No 270006, Filed 19 Aug 68

Translation: This Author's Certificate introduces a device for suppression of threshold noise containing a frequency detector, the input of which is connected in parallel to the amplitude detector and a paraphase limiteramplifier connected to its output. In order to increase the noise proofness, a diode bridge is connected to the output of the frequency detector. The diagonal of the diode bridge with one-way conductance is connected to the output of the paraphase amplifier-limiter, and the output of the diode bridge is connected to the input of the storage element.

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1/2 028 UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--THE INFLUENCE OF EXOGENIC SERUTONIN ON THE AGGREGATION OF BLOOD PLATELETS AND SOME BLOOD COAGULATION INDICES IN EXPERIMENTAL ACUTE AUTHOR-(02)-DOROFEYEV, V.M., KHNYCHEV, S.S.

COUNTRY OF INFO--USSR

SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 49,

DATE PUBLISHED----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RADIATION SICKNESS, COBALT ISOTOPE, GAMMA RADIATION, SEROTONIN, BLOOD PLATELET, BLOOD COAGULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3004/0688

STEP NO--UR/0219/70/049/006/0021/0023

CIRC ACCESSION NO--APO131287

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70 CIRC ACCESSION NO--AP0131237 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. TO WISTAR HATS ON THE SEVENTH DAY AFTER IRRADIATION (CO PRIMEGO GAMMA RAYS, 600 R, 6 R PER SEC) SEROTONIN CREATININE SULFATE IN A DOSE OF 0.1 MG-KG WAS INJECTED INTO THE SUBCUTANEOUS FEMORAL VFIN. TWO THREE MINUTES AFTER SEROTONIN INJECTION THE AUTHORS DETERMINED IN THE BLOOD THE AGGREGATION OF BLOOD PLATELETS AND SOME INDICES OF THE BLOUD COAGULATION. SERUTONIN EXERTS NO ESSENTIAL INFLUENCE ON THE INDICES STUDIED IN IRRADIATED RATS. AN ASSUMPTION COULD BE MADE THAT DISTURBANCES OF AGGREGATION OF BLOOD PLATELETS AND THE BLOOD COAGULATION PROCESS IN ACUTE RADIATION SICKNESS IS NOT ASSOCIATED WITH REDUCED SEROTONIN CONCENTRATION IN THE BLOOD. FACILITY: INSTITUTE OF MEDICAL RADIOLOGY OF THE ACADEMY OF MEDICAL SCIENCES OF THE USSR, OBMINSK.

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USSR UDC: 535.243.08

DOROFEYEV. V. S., IVANOV, N. P.

"Atomic Absorption Non-Dispersion Photometer Based on a Photoresistor"

Optich. i Titrometrich. Analizatory Zhidk. Sred [Optical and Titrometric Analyzers for Liquid Media], Reports of All Union Conference, 1971, Part 1, Tbilisi, 1971, pp 87-92 (translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 2, 1972, Abstract No 2.32.1098 by V. S. Krasnova)

Translation: It is demonstrated that the use of a non-dispersion system for recording based on type VSB spectral tubes and the F-7 photosensor, insensitive to daylight, the FEU-57 ultraviolet photomultiplier and the SF2-19 photoresistor in atomic absorption installations allows the content of zinc, cadmium, bismuth, lead and many other elements to be determined in solutions. The results of experimental studies performed by VNIIREA (Moscow) have demonstrated the possibility of using the SF2-19 photoresistor in atomic absorption analyzers using a two-discharge spectral tube for determination of copper and silver both simultaneously and separately with a sensitivity of about 1-2 $\mu_{\rm E}/nl$ for 1% absorption with a reproducibility of about 2-3%. 2 figures; 5 biblio refs.

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- 150 -

USSR

UDC: 621.375

DOROFEYEV, V. V., POPOV, P. A.

"Use of Directional Graphs for Calculating a Transistorized Amplifier With Feedback"

V sb. Poluprovodn. pribory v tekhn. elektrosvyazi (Semiconductor Devices in Electrical Communications Technology--collection of works), vyp. 7, Moscow, "Svyaz'", 1971, pp 206-209 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D102)

Translation: A procedure is outlined for determining the G parameters of a two-stage transistcrized amplifier with both negative parallel input feedback and negative series output feedback. The method is based on using directional signal graphs. Four illustrations, bibliography of one title. Resumé.

1/1

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

WC 539.219.3:669.784:669.25

LAMKOV, K. K., DOROFEYEY, YU. G., and SHATOV, YU. S., Novocherassk Permenent Magnet Plant

"Carbon Diffusion in a Single Crystal Alloy YuNDK24"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, Aug 73, pp 72-73

Abstract: The diffusion of carbon was investigated in a magnetically hard alloy of the YuNDK24 type containing (in %): 23.5 Co, 13.6 Ni, 7.9 Al, 3.1 Cu, 0.7 Nb, and 0.3 Ti. To eliminate the possible effect of grain boundaries on the diffusion processes, the study was made using a single crystal measuring 10x10x20 mm. It was found that in the complexly alloyed ferrite of alloy YuNDK24 the alloying elements substantially affect the diffusion mobility and diffusion coefficient (D_O) and Q by lowering the

diffusion mobility of carbon with cobalt, rendering the greatest slowing effect of the carbide-forming elements. Three figures, one table, seven bibliographic references.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

Thermomechanical Treatment

USSR

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UDC: 621.762.32:539.219

DOROFEYEV. Yu. G., ZHERDITSKIY, N. T., PRUTSAKOV, V. T., MURAL', V. V. LAMKOV, K. K., Novocherkassk Polytechnical Institute

" Effect of Thermomechanical Steel Produced by Dynamic Hot-Pressing" Treatment on Diffusion of Carbon in

Kiev, Poroshkovaya Metallurgiya, No 4, 1972, pp 36-39.

Abstract: Studies were performed using specimens produced by pressing with subsequent heating and dynamic hot-pressing at 1100°C with holding at this temperature for 20 minutes. After the holding, dynamic hot-pressing was performed at 1100, 1000, 900, and 800°C in a die heated to 600°C with subsequent rapid cooling of the specimens in water. The diffusion of carbon occurred in a rarefied gas medium, using C14 as a label. It was found that with high-temperature deformation with shock loads and subsequent hardening, recrystallization processes are suppressed. Therefore, relief of hardening due to elimination of dislocation imperfections occurs incompletely, and the structure of the material has high internal stresses and dislocation

1/2

DOROFEYEV, Yu. G., ZHERDITSKIY, N. T., PRUDTSAKOV, V. T., MURAL', V. V., LAMKOV, K. K., Novocherkassk Polytechnical Institute, Kiev, Poroshkovaya Metallurgiya, No 4, 1972, pp 36-39.

density and low mosaic block dimensions. The increase in dislocation density reduces the diffusion of mobility of the carbon atoms, resulting from their capture by structural defects, the concentration of which increases with decreasing dynamic hot-pressing temperature.

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UDC 621.762.4,016

DOROFEYEV YU G

Dinamicheskoye goryacheve pressovaniye v metallokeramike (Dynamic Hot Compacting in Powder Metallurgy), Moscow, Metallurgiya Press, 1972, 176 pages

Translation: <u>Introduction</u>. The urgency of the problems facing powder metallurgy has been noted many times in the party and government resolutions. Thus, in the Directives adopted at the 23rd Congress of the CPSU, the necessity for further development of it and broad introduction of cermet parts in industry was indicated.

The efficiency of any technological process is determined on the one hand by the possibility of achieving results by using it which cannot be achieved by other methods and, on the other hand, by its economy. It is obvious that cases will be optimal where the new technological process permits combination of both of these aspects which constitute a reliable incentive for its development and introduction. One such case is powder metallurgy — a comparatively new and intensely developing technological method of obtaining materials and finished parts.

The significance of powder metallurgy is determined by the fact that it permits the creation of theoretically new materials.

The rapid, ever-accelerating development of powder metallurgy is basically determined by its actentific directivity as a method intended for the determination 1/8

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DOROFEYEV, YU. G., <u>Dinamicheskove</u> goryacheye pressovaniye v metallokeramike, Moscow, Metallurgiya Press, 1972, 176 pages

of the possibilities and means of creating materials with properties given in advance. Industry has mastered the technological processes of producing cermet materials and products with various properties, compositions, and purposes. These are antifriction, friction, packing, and wear-resistant materials for friction couples, porous filters, refractory metals and compounds and cermet solid alloys, materials for the production of products for space engineering, ferrites and magnetodielectrics, reinforced and dispersion-hardened materials, and so on.

Recently, the methods of powder metallurgy have been used more and more frequently to obtain cermet materials, replacing ordinary carbon steels, cast iron and nonferrous metals, that is, general-purpose machine building and instrument making materials. The products from them can be manufactured in the form of finished parts or billets requiring little machining. This leads to minimum expenditures on machining and metal waste in the form of shavings, insuring economic expediency of such processes combined with improved quality of the products and their reliability, a reduction in mass, and so on. The methods of powder metallurgy compete in this case with the ordinary methods of machine building technology, insuring higher technical-economic indexes.

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DOROFEYEV, YU. G., Dinamicheskoye goryacheye pressovaniye v metallokeramike, Moscow, Metallurgiya Press, 1972, 176 pages

The demand of industry for construction products is more than 60% of the entire demand for cermet products [1].

The characteristic features of the technological processes for obtaining cermet construction materials are determined by the requirement of high strength and density and also sufficient plasticity, hardness, and so on. There are a number of such processes: multiple compacting and sintering, hydrostatic and isostatic compacting, hot compacting by static loads with holding under pressure, rolling, compacting by a beveled punch and in metal shells, explosion compacting, extrusion, impregnation with liquid metals, sintering with the formation of a liquid phase, and so on.

However, some of these methods have significant deficiencies (low output capacity, high equipment wear); others do not completely satisfy all the growing needs of industry. This causes the necessity for developing new technological procedures, especially those which will permit combination of the process of forming the compacted material from a porous billet with its thermomechanical treatment. They include dynamic hot pressing based on preliminary cold forming of the porous billet from a powder charge of given composition, short term heating of it (in the absence of the requirement of homogenization of the material), prepressing under dynamic loads in a flashless die, knockout and cooling 3/8

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

DOROFEYEV, YU. G., Dinamicheskoye goryacheye pressovaniye v metallokeramike, Moscow, Metallurgiya Press, 1972, 176 pages

with the required velocities. When necessary, calibration, cutting, heat treatment and chemical-heat treatment are used. When using a charge made of various components and when it is necessary to homogenize the charge, depending on the characteristic features of the material, the homogenization is carried out either when heating before the dynamic hot pressing process or during diffusion annealing after completion of the process. This process permits combination of economy with obtaining the materials with the required properties.

Under defined conditions, the dynamic hot pressing method permits non-porous materials with a specific structure to be obtained in practice. Simultaneously with the forming of the compacted material from a porous billet, the configuration of which is selected in accordance with the configuration of the finished parts, molding of the part takes place which, as a rule, has a high surface finish and high dimensional precision. At the present time, specimens and experimental batches of parts frequently of complex shape and responsible purpose are made from various materials by the dynamic hot pressing method. The preparation for industrial mastery of this procedure is underway at a number of enterprises of the country.

The possibility of sharply expanding the raw material base of powder $4/\delta$

- 28 -

DOROFEYEV, YU. G., <u>Dinamicheskoye goryacheye pressovaniye v metallokeramike</u>, Moscow. Metallurgiya Press, 1972, 176 pages

metallurgy with the application of the dynamic hot pressing method by replacing the metal powders, the shortage of which has not been eliminated and the cost of which remains high, by netal shavings the reserves of which are practically inexhaustible, is of great importance. This substitution, the possibility of which is most probable for mass consumption products, will permit significant savings to be obtained.

A necessary condition of the industrial implementation of any new technological process is the study of the peculiarities and essence of the phenomena taking place in its various stages and knowledge of the optimal conditions of performing individual operations. All of this and also the study of the structure, physical-mechanical and technological properties of the materials obtained pertain fully to the method of dynamic hot pressing, and they determine the necessity for a comprehensive study of it. Such research not only has specific applied significance, but it is also a defined contribution to powder metallurgy theory and also materialsscience, metal working under pressure and pressure welding.

The dynamic hot pressing method began to be developed at the Laboratory of Dynamic Powder Metallury of the Novocherkassk Polytechnic Institute in 1960 [Goncharov, I. N., Dorofeyev, Yu. G., Popov, S. N., "Obtaining Compacted Metals 5/8

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

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DOROFEYEV, YU. G., Dinamicheskoye goryacheye pressovaniye v metallokeramike. Moscow, Metallurgiya Press, 1972, 176 pages

by Forge Welding of Particles of Different Size and Shape," <u>Certificate of Registration of Scientific Research Work Performed of the Committee on Inventions and Discoveries under the USSR Council of Ministers No. 19467</u>, claimed 7 July 1960].

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DOROFEYEV, YU. G., Dinamicheskoye gorvacheye pressovaniye v metallokeramik Moscow, Metallurgi Press, 1972, 176 pages	œ,
Chapter IV. Materials and Products Obtained by the Dynamic Hot Pressing Method 1. Ferrocarbide Alloys	7.0
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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UDC 621.762.002.5(088.8)

USSR

DOROFEYEV, YU. G., LEBEDEV, B. A., ZHERDITSKIY, N. T., and KOLESNIKOV, V. A., Novocherkassk Polytechnic Institute

"Die for Making P/M Bushings"

USSR Authors' Certificate No 264136, Cl. 49 h, 11; 49 i, 16, (B 21 j B 21 k), filed 19 Jun 68, published 24 Jun 70 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G477P)

Translation: The die consists of a frame, an upper punch suspended from the top of the die frame on a spring, a bottom punch which is the pusher, and a needle passing through the upper punch. In order to make possible the extraction of the needle from a pressed bushing without breaking it, the die is equipped with a double upper-punch lock, which is tripped by guide blocks fastened to the top of the die frame. Four illustrations.

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1/2 024 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--PIG-CSTRUCTURE OF IRON POWDER MOULDINGS IN RELATION TO THE MOULDING
METHOD -0-

ACTHOR-(C4)-BURGEYEV, YU.U., KRITIN, D.I., ZHERDITSKY, N.T., PRUTSKOV, V.T.

CCUNTRY OF INFO--USSR

SCURCE--PCK_SHKOVAYA MET., APR. 1970, (4), 39-43

DATE PUBLISHED ----- 70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TGPIC TAGS--INCH POWDER, POWDER METAL MOLDING, POWDER METAL PROPERTY, CORAIN STRUCTURE, INTERNAL STRESS.

CONTROL MARKING--NO RESTRICTIONS

DCCUMENT CLASS--UNCLASSIFIED PROXY RESELVI KAYE-+3006/0635

STEP NO--UR/0226/70/000/004/0039/0043

CIRC ACCESSION NO--APOLISHBUT

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PROCESSING DATE--20NGV70

2/2 024 CIRC ACCESSION NO--APOI34397

ABSTRACT/EXTRACT—(U) GP=0- ABSTRACT. THE MICROSTRUCTURE OF FE POWDER MUDIDINGS PRODUCED UNDER STANDARD STATIC AND DYNAMIC CONDITIONS WAS STUDIED AND CORRELATED WITH THE PARAMETERS OF THE MOULDING PROCESS. THUS MATERIALS SUBJECTED TO STATIC AND DYNAMIC MUULDING PROCESSES MAY DIFFER CONSIDERABLY IN MICROSTRUCTURE AND PHYSICOMECHANICAL PROPERTIES, EVEN IF THE FINAL PORDSITY IS OF THE SAME ORDER. THESE DIFFERENCES ARE ATTRIBUTED TO DIFFERENCES IN THE STRESS AND STRAIN DISTRIBUTION IN AND BETWEEN THE INDIVIDUAL GRAINS AS CONFIRMED BY HARDNESS MEASUREMENTS.

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UNULASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UDC 669.14.018.25:621.762

DOROFEYEV, Yu. G., PETROV, A. K., TSIPUNOV, A. G., USTIMENKO, V. I. MARINENKO, L. G., BATENEVA, M. K., and ORLOV, Yu. G., Novocherkassk Polytechnic Institute, Ukrainian Scientific Research Institute of Special Steel

"Structure and Properties of R18 Cermet Steel"

Kiev, Poroshkovaya Metallurgiya, No 2 (122), Feb 73, pp 56-60

Abstract: Results are presented of investigations of the production of R18 high-speed cermet steel from pulverized powders by the method of dynamic hotpressing. Steel productions using plasticizers and production in thin-sheet metal containers are investigated. The established optimum conditions for dynamic hot-pressing of R18 steel are as follows: heating temperature 1250-1280°C, reduced pressing work 25-30 kgm/cm³, aging time 10 min. The produced steel was practically without pores, it had a homogeneous microgranular structure corresponding to the structure of hardened steel, and it was without carbide liquation. Cutters of R18 cermet steel had a resistance twice as high as that of standard R18 steel. Three figures, seven bibliographic references.

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- 48 -

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UNCLASSIFIED

PROCESSING DATE-- 20NOV70

TITLE-ON THE POLAROGRAPHIC ANALYSIS OF SOME MIXTURES OF THE RARE EARTH

ELEMENTS -U-

AUTHOR-(03)-SEVRYUKOV, N.N., DOROFEYEVA, G.I., DESILVA, L.

CCUNTRY OF INFC--USSR

SOURCE-ZH. ANAL. KHIM.: 25: 695-9 (APR 1970)

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PCLAROGRAPHIC AMALYSIS, RARE EARTH METAL

CCNTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3001/0455

STEP NO--UR/0075/70/025/000/0695/0699

CIRC ACCESSION NO--APOL26207

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

2/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70 CIRC ACCESSION NO--APO126207

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. STUDIES WERE MADE ON THE POSSIBILITY OF THE INDIRECT POLAROGRAPHIC DETERMINATION OF INDIVIDUAL RARE EARTHS AND THEIR TOTAL CONTENT USING MANGANESE WHICH IS DISPLACED BY THEM FROM MN EDTA PRIMEZ NEGATIVE. THE HEAVY RARE EARTH ELEMENTS CAN BE DETERMINED IN THE PRESENCE OF LANTHANUM AND OTHER LIGHT RARE EARTHS BY MEANS OF THE COMPLEXES OF OTHER REACTLY POLAROGRAPHED METALS WITH EDTA. FACILITY: PATRICE LUMUMBA UNIV. OF PEOPLE'S FRENOSHIP, MOSCOW.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

DOROFEYEVA, L. I.

"The Formation of a Matrix"

Vopr. Optimal'n. Programmir. v Proizv. Zadachakh [Problems of Optimal Programming in Production Tasks -- Collection of Works], Voronezh, 1972, pp 94-99 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V525).

Translation: A program from the compact multiplicative simplex method with repetitions is used to solve a number of problems of optimal planning. In order to apply the program, one must manually perform a very difficult task of matrix composition, recording in the required form on blanks and punching. A program is suggested to automate these operations.

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AA0052400

DOROFELEVEVA

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

2470

INDUCTION COIL for HF heating of the inner surface of cylindrical workpieces surrounds a laminated central core. It consists of a secondary coil, in the form of two semicircular rings which accommodate between L-shaped ribs a multi-turn primary winding. If the outside of a rim has to be heated, a similar system can be applied on its outside. Cooling coils with a coolant are arranged on the periphery of the secondary coil which acts as the HF inductor.

2.11.67 as 1194376/24-7 N.I. DOROFEEVA & L.P. SHEVCHENKO-PUKKI (16.9.69) Bul. 16/5.5.69. Class 21h, Int. C.B. B 23k.

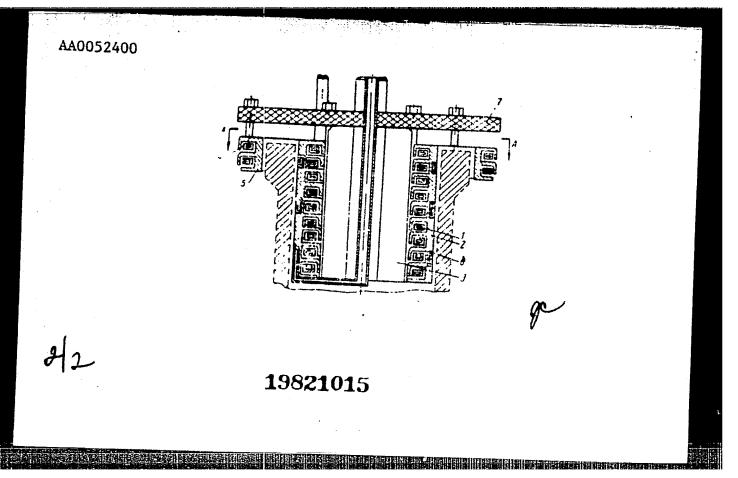
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Dorofeyeva, N. I.; Shevchenko-Pukki, L. P.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"



UNCLASSIFIED PROCESSING DATE--1106070
TITLE--RECCX PCTENTIALS OF MITRIC ACID, MICKEL MITRATE, AND THEIR MIXTURES
TO AS FUNCTIONS OF CONCENTRATION AND TEMPERATURE -U-

AUTHUR-(02)-KALINICHENKO, I.I., DUROFEYEVA, N.M.

CCUNTRY OF INFO--USSK

SGURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(4), 771-6

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS—PLATINUM ELECTRODE, ELECTRODE POTENTIAL, NITRIC ACID, CONSTANT, THERMAL EFFECT, AQUEOUS SOLUTION, SODIUM NITRATE, NICKEL COMPOUND

CENTROL MARKING--NO RESTRICTIONS

DUCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3004/0961

STEP NO--UR/0080/70/043/004/0771/0776

CIRC ACCESSION NO--APO131546

UNCLASSIFIED

PROCESSING DATE--11DEC70 UNCLASSIFIED 2/2 CIRC ACCESSION NO--APO131546 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REDOX POTENTIAL OF NJ SUB3 PRINE NEGATIVE NEGATIVE N (GAS) WAS MEASURED AT 30, 50, 70, AND 90DEGREES AT A 4 CM PRIMEZ PT ELECTRODE (VS SCE) IN SOLNS. CONTG. VARIOUS CONCNS. OF NHO SUB3 OR NI(NO SUB3) SUB2 AND IN MIXTS. AT 22, 90, AND TOODEGREES. INCREASING CONCNS. OF EITHER THE ACID OR THE SALT (TO SIMILAR TO 6N) INCREASED THE POTENTIAL; INCREASING TEMP. INCREASED THE POTENTIAL IN ACID SOLM. BUT LOWERED THE POTENTIAL IN THE SALT SOLM. ACID SOLN., AT SIMILAR TO ION CONCN., THE POTENTIAL BEGAM TO DECREASE DUE TO A CHANGE IN IUNIZATION PRODUCTS AS THE WATER CONTENT DECREASED FROM NO SUB3 PRIME NEGATIVE PLUS H SUB3 O PRIME POSITIVE FOR AQ. SYSTEMS TO H SUB3 O PRIME POSITIVE PLUS 2NH SUB3 PRIME NEGATIVE PLUS NO SUB2 PRIME POSITIVE IN NONAQ. MEDIA. IN MIXED SYSTEMS NI(NO SUB3) SUB2 MINUS HNO SUB3 MINUS H SUB2 G. THE POTENTIAL DEPENDED ONLY ON THE TOTAL NO SUB3 PRIME NEGATIVE CONCN.; HOWEVER, IN THE NAMO SUB3 MINUS HAD SUB3 MINUS H SUB2 C SYSTEM. THE POTENTIAL DID DEPEND ON THE ACID CONCN. CONSEQUENTLY, THE CONCN. DEPENDENCE OF THE REDOX POTENTIAL OF NO SUB3 PRIME NEGATIVE SYSTEM DEPENDS UPON ITS ABILITY TO COMPLEX WITH SOME CATION SUCH AS NI PRIMEZ POSITIVE.

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wc 616.921.5:616.15-07

KOVAL CHUK, A. N., SAFONOVA, L. G., and DOROFEYEVA, R. P., Voroshilovograd Medical Institute, Voroshilovograd

"The State of the Blood Coagulation and Anticoagulation System in Influenza Patients"

Kiev, Vrachebnoye Delo, No 3, 1972, pp 141-144

Abstract: A thromboelastographic study of 87 patients with A₂ and B influenza revealed complex changes in the blood coagulation system, mainly of a hypocoagulation nature. Most of the blood coagulation disorders were related to influenza severity. The coagulation of blood was slow in influenza patients during an acute period of the disease, the thromboplastin constant was 9.3 (control 8.2). At the same time the concentration of free heparin thrombinogenesis time increased. The thrombus-forming constant was 4.5 as opposed to 2.6 in healthy individuals. While the concentration of heparin was high in a majority of patients (12.5 sec. and only 7.4 sec. in control individuals), the fibrinolysis time increased to 202 from 311 min. in control patients. This means that the fibrinolytic activity was high. The consumption constant of prothrombin was 2.5 (normal 3.0) during the acute stage of the influenza. The specific coagulation constant was 1.36 (normal 10.6), the biological 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

KOVAL CHUK, A. N., et al., Vrachebnoye Delo, No 3, 1972, pp 141-144

syneresis constant was 18.3 (normal 15.4 min). The constant of total blood clotting in influenza patients was 28.2 min., as opposed to 23.6 min. in healthy individuals. Normalization of the above factors took place in a majority of patients with mild influenza during the convalescent period. a long convalescent period.

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UDC 615.385.1

VINOGRAD-FINKEL', F. R., Prof, TERENT'YEVA, E. I., Prof, SUKHOVA, A. G., VOROB'YEVA, G. S., TAL'SKAYA, I. N., LIFLYANDSKIY, D. B., DOROFEYEVA, T. N., and SAMSONOVA, N. N., Central Institute of Hematology and Blood Transfusion (Prof A. Ye. Kiselev, Director), Ministry of Health USSR and Institute of Cardiovascular Surgery (Prof V. I. Burakovskiy, Director), Academy of Medical Sciences USSR (Moscow)

"Morphological and Biochemical Characteristics and Viability of Washed Erythrocytes Intended for Surgical Procedures With Extracorporeal Circulation"

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 16, No 8, 1971, pp 3-7

Abstract: Erythrocytes were obtained after separation of plasma from donor blood which had been kept in storage for 24 hours, washed with physiological solution, and examined by the electron microscope method; unwashed erthrocytes from the same blood served as controls. After two washings the submicroscopic organization of cells in the washed erythrocytes did not differ essentially from that in the unwashed erythrocytes. The conclusion 1/2

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VINOGRAD-FINKEL', F. R., et al., Problemy Gematologii i Perelivaniya Krovi, Vol 16, No 8, 1971, pp 3-7

was that washing the erythrocytes from blood prepared with a glucose-citrate preservative and stored for one day has no significant effect on the ultrastructure of almost the entire mass. Investigation of phosphorus fractions demonstrated the metabolic integrity of the washed erythrocytes through one or two washings. Thus, washing with physiological saline solution does not alter the structural completeness, metabolic activity, or biological value of erythrocytes. None of their indexes differ from those of erythrocytes of whole blood stored for 1 day and used for extracorporeal circulation in cardiac surgery; they should therefore be recommended as the basic component in perfusates for extracorporeal circulation.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UDC 612.766.1:656.13.071.7

VAYSMAN, A. I., LASHCHENKO, N. S., IKSANOV, M. SH., DOROFEYEVA, Ye. D., ROSTOVISEVA, G. G., GOLOVA, I. A., CHANDAYEV, A. K., VOL'PER, G. I., and E. I. KOGAN

"Physiological Characteristics of the Work of Bus and Truck Drivers in a Large City"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 1, 1973, pp 13-16

Abstract: The results of various functional psychological and physiological tests (reflexes, reaction to a moving object, proof reading test, EKG, blood pressure, pulse, etc.) confirmed the conclusions drawn from questionnaires filled out by 8000 bus drivers that fatigue gradually sets in after 4 to 5 hours on the job and becomes pronounced after 7 to 8 hours of driving. Along with a deterioration in performance, many showed an "improvement" in some physiological indices at the end of the work shift (e.g., increase in number of correct reactions to a moving object, decrease in time of differential reactions). This "improvement" is regarded as the result of overstraining the compensatory mechanisms in order to preserve a level of activity sufficient to protect the life and health of the driver. The truck drivers, on the other hand, continued to function well even after 8 or 9 hours on the job because 1/2

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VAYSMAN, A. I., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 1, ...

of the less strenuous nature of the work (less time spent in driving during the shift, fewer actions to control the vehicle per unit of time, and less emotional stress). Some suggestions are made for altering the work schedules of bus drivers to take into account the physiological factors uncovered in the study.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

Acc. Nr:

AP0044016_

Ref. Coče: UR 0240

PRIMARY SOURCE: Gigiyena i Sanitariya, 1970, Nr 2, pp 22-30

HYGIENIC WORK CONDITIONS AND HEALTH STATUS OF WORKERS ENGAGED IN PRODUCTION OF TOLUENEDIAMINE

V. S. Filatova, A. Ya. Tubing, Z. V. Sharonova, I. A. Golova, V. I. Filing, Dorofeyeva, Ye. D.

While obtaining toluenediamine by using Baier's method the air of work shops can be polluted with toluenediamine, methanol, o-dichlorobenzene and dinitrotoluene. The two lastly named substances could not be traced in most of the samples. The most commonly encountered TDA and methanol concentrations were below the maximally permissible levels. Materials derived from these investigations bring evidence that continuous method of TDA production with remote and automatic control of technological operations and the equipment employed for this purpose deserve high appraisal. The study of the workers' health status revealed mildly pronounced pathological shifts on the level of nervous system, blood and liver. revealed mildly pronounced pathological shifts on the level of nervous system, blood and liver.

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REEL/FRAME 19770453

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UDC: 51:155.001.57:681.3.06

BRAVERMAN, E. M., DOROFEYUK, A. A., LUMEL'SKIY, V. Ya.

"Using Methods of Pattern-Recognizing Computer Instruction Without a Teacher in Natural-Science Studies"

Tr. mezhdunar. simpoziuma po tekhn. i biol. probl. upr., 1968, Raspoziumavaniye obrazov. Adaptivn. sistemy (Works of the International Symposium on Technical and Biological Problems of Control, 1968. Pattern Recognition. Adaptive Systems), Moscow, "Nauka", 1970, pp 112-116, discussion on p 117 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V627)

Translation: The paper presents the results of machine classification of experimental data obtained in various fields of science: geology, physiology, medicine, psychology, etc. In such empirical sciences, one is frequently dealing with a large number of objects for which no a priori theoretical premises exist for their classification. A typical method of study for these sciences is to break the objects down into classes with respect to their outward "likeness", and then to find a description of the classes and elucidate the principles which govern each class. As a rule, the description of each object is a set of

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

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numbers. For a human being, classification of this kind of number threness of using machine classification in this kind of problem. V. Mikheyev.

BRAVERMAN, E. A. et al., Tr. Mezhdumar. simpoziuma po tekhn. i biol. probl. upr., 1968. Raspoznavanive obrazvo. Adaptivn. sistemy, Moscow."Nauka", 1970, pp 112-116, discussion on p 117

ASSU

1/2 037 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--RESULTS OF TREATMENT OF ACUTE PANCREATITIS -U-

AUTHOR--DOROGAN, D.A., KOBELYATSKIY, I.T.

COUNTRY OF INFO--USSR

SOURCE--- VRACHEBNOYE DELO, 1970, NR 3, PP 37-39

DATE PUBLISHED----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MEDICAL EXAMINATION, PAIN, BODY TEMPERATURE, LEUKOCYTOSIS, HYPERTENSION, LIVER FUNCTION, KIDNEY FUNCTION, NECROSIS, PANCREATITIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1986/0952

STEP NO--UR/0475/70/000/003/0037/0039

CIRC ACCESSION NO--APO102891

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--11SERTO

CIRC ACCESSION NO--APO102891

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE MAIN CLINICO LABORATORY DATA

ARE PRESENTED GAINED FROM A STUDY OF 165 PATIENTS WITH ACUTE

PANCREATITIS. THE PATIENTS SHOWED; FPIGASTRAL PAIN (IN ALL PATIENTS),

NORMAL TEMPERATURE (62.4PERCENT), LEUCOCYTOSIS FROM 10,000 TO 18,000

(64.7PERCENT), TACHYCARDIA (109 PATIENTS), HYPOTENSION (91 PATIENTS),

ACROCYANOSIS (23 PATIENTS), ELEVATED URINARY DIATASE (81.9PERCENT),

HYPERGLYCEMIA (41.8PERCENT), SIGNIFICANT LIVER PATHOLOGY, RENAL FUNCTION

DISORDERS, 151 PATIENTS WERE TREATED MEDICALLY AND ALL RECOVERED. OF

THE 14 SURGICALLY TREATED PATIENTS THREE DIED. THEY SHOWED HEMMORHAGIC

NECROSIS OF THE PANCREAS.

UNICLASSIFIED

USSR

UDC 621.376.23(088.8)

DOROGANOV, I. A.



"Triode Detector"

USSR Author's Certificate No 243664, Filed 11 Jun 64, Published 25 Feb 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D47P)

Translation: This author's certificate introduces a semiconductor triode detector to the output of which an automatic gain control is connected. The detector is equipped with a feedback circuit encompassing the detector cascade. In order to improve the dynamic range and increase its operating stability, the feedback circuit contains a low-frequency filter included between the load of one of the last cascades connected to the diode with respect to direct current and the base of the semiconductor triode.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

Automatic Control: Systems

USSR

UDC 681.17:685.511.9

DOROGANOVA, Z. M.

"Determining the Economic Efficiency of Control-Measuring Apparatus"

Elektron. Tekhnika. Nauch.-Tekhn. Sb. Mikroelektronika (Electronic Technology. Scientific-Technical Collection. Microelectronics), 1972 Edition 2(36) pp 127-132 (from RZh-Avtomatika Telemechanika i Vychislitel'naya Tekhnika, No 3, Mar 73, Abstract No. 3 A 296 by the authors)

Translation: The question of determining the economic efficiency of control-measuring apparatus on the basis of the quality of the measurement information obtained and the cost of obtaining it is examined. A method is suggested for calculating economic losses due to measurement errors of the first and second orders. This approach makes it possible to consider the effect of measurement distortions in the control-measuring apparatus on its economic efficiency. One illustration, one table, three bibliographic entries.

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UDC 621.375.9

DOROGAYA, L. N., ZIMOKOSOV, G. A., LEIKIN, A. Ya., RATNER, A. M., SOLOV'YEV, V. S.

"Simple Method of Operative Measurement of the Angular Divergence of a Laser"

Moscow, Izmeritel'naya Tekhnika, No 4, 1973, pp 30-31

Abstract: A method is described for measuring the angular divergence of the emission of a continuous-action laser based on transformation of the divergence of the laser beam by a prism. The theoretical basis for the method is presented, and the parameters of the device are calculated. The possibility of using the method for the pulse-action laser is investigated.

The described method was used to measure the angular divergence of the LG-56 helium-neon laser with a wave-length of 0.63 microns. A prism with its base in the form of an equilateral right triangle was rotated by an electric motor with a frequency of 7.2 hertz. The receiver was the FAU-68 photomultiplier defined by a slit, the width and position of which were regulated by screws. The signal was transmitted from the photomultiplier to the S1-19 oscillograph. On synchronizing the scanning with the rotation frequency of the prism, 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

DOROGAYA, L. N., et al., Izmeritel'naya Tekhnika, No 4, 1973, pp 30-31

clear pulses were observed on the oscillograph screen which reproduced the radiation pattern. With low pumping when only the basic transverse oscillation was observed visually in the near field, the shape of the pulse approached a gaussian curve. The halfwidth of the pulse recalculated for mode field of 5'24" calculated by the well-known formulas. With an increase in the pumping current strength, when the higher transverse modes were visually observed, the pulse on the oscillograph screen revealed a corresponding broadened structure. The shape of the pulse does not depend ing to a resoltuion of less than 2'.

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Thermomechanical Treatment

USSR

WDC 669.35'6'296,621.78

DOROGEYEVA, A. S., KOZLOV, V. V., and FEDOROV, V. N.

"Thermomechanical Treatment of Bronze with Elevated Zirconium Content"

Moscow, Tsvetnyye Metally, No 2, Feb 74, pp 63-65

Abstract: Bronze containing 0.8% Zr and 0.6 Cr is recommended for the sliding contacts of high-voltage apparatus. An optimal plan of thermomechanical treatment of this bronze is developed and recommendations given for the technology of manufacture of semifinished goods from it. The thermomechanical treatment recommended includes: hardening at 940-960° C, holding 30 minutes; intermediate deformation of 30-60%; tempering at 450° C for 4-6 hours. This treatment provides the following properties of b 46-50 kg/mm²; HB =

145-160 kg/mm²; $\delta = 16-18\%$; $\gamma = 42-44$ m/ohm·mm². The conductivity is

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1/2 021 TITLE--DEPENDENCE OF THERMOCONDUCTIVITY OF TERRIGENE ROCKS OF THE WEST PROCESSING DATE--1155070 . SIBERIAN LOWLAND ON OTHER PHYSICAL PARAMETERS -U-AUTHOR--MOISEYEVKO, U.I., DOROGINITSKAYA, L.M., LEONTYEV, YE.I., SCKOLOVA, COUNTRY OF INFO--USSR

SOURCE-GEOLOGIYA I GEOFIZIKA, 1970, NR 2, PP 106-110

DATE PUBLISHED----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS

TOPIC TAGS--ROCK, SANDSTONE, POROSITY, ELASTIC WAVE, HEAT CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1986/1232

STEP NO--UP/0210/70/000/002/0106/0110

CIRC ACCESSION NO--APO103120

UNCLASSIFIED

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CIPC ACCESSION NO--APOID 3120

ABSTRACT/EXTRACT--(µ) GP-O- ABSTRACT. THE RESULTS OF THE STUDY OF SANDSTONES, ALEVROLITES AND ARGYLLITES THERMOCONDUCTIVITY DEPENDENCE ON SPECIFIC GRAVITY, POROSITY, DENSITY, ELASTIC WAVES VELOCITY AND OF PHYSICAL PARAMETERS WERE MADE ON THE DRY SAMPLES AND THOSE SATURATED IN WATER. THE RESULTS OF OBTAINED DEPENDENCE OF THERMOCONDUCTIVITY ON ENUMERATED PARAMETERS ARE PRESENTED AS EMPIRICAL EQUATIONS AND DIAGRAMS.

UNCLASSIFIED

Acc. Nr: A/0054026 Abstracting Service: CHEMICAL ABST. 5-70

Ref. Code: UR 0065

102351u Transformation of 1-butene and isobutylene during the hydrogenation of a thermal cracking fraction of C₄ hydrocarbons on an aluminum-cobalt-molybdenum catalyst. Shumovskii, V. G.; Dorogoshinskii, A. Z. (USSR). Khim. Tekhnol. Topl. Masel 1970; 15(2), 5-8 (Russ). A hydrocarbon fraction contg. 15-17% CH₂: CHEt (I), 7.7-9.1% trans-2-butene, 6.5-7.0% cis-2-butene, 6.3-10.2% Me₂C: CH₂ (II), and 0.2-0.29% CH₂: CHCH: CH₂ (III) was hydrogenated at vol. flow rates of 250-1500 hr⁻¹ at 200-300°/1.5-1.62 atm with H admitted at a rate of 5-80 ml/min on a 12.9% MoO₂, 4.4% CoO, and 82.5% Al₂O₃ catalyst of sp. gr. 0.66 g/cm³. Optimal temp., input rate, and H content for complete conversion of III and min. I and II conversion (15 and 0%, resp.) were 200°, 315 hr⁻¹, and 15%. Other temp., input rate, and H content levels (250, 465 hr⁻¹, and 2.5%, 250°, 750 hr⁻¹, and 5.0%, 250°, 1000 hr⁻¹, and 6.0%, 300°, 1000 hr⁻¹, and 1.0%, and 300°, 1500 hr⁻¹, and 3.0%) giving complete III conversion resulted in 28, 36, 31, 52, and 60% I conversion, resp.

Lucile S. Davison

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REEL/FRAME 19831119

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Environmental and Ecological Problems

USSR

UDC 616-006

DOROGOKUPLYA, A. G., ADILIGIREYEVA, L. KH., and MYASNIKOV, A. I., Institute of Clinical and Experimental Surgery, Ministry of Public Health, Kazakh SSR

"Effect of Smoke-Contaminated Air on the Podies of White Rats Suffering A-Rypovitaminosis"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Biologicheskaya, No 3, May/Jun 72, pp 57-60

Abstract: The relationship between vitamin A deficiency and the effects of chemical carcinogens was studied by subjecting rats to up to 1 year in a smoke chamber. Tissues of 25 rats fed a Sherman diet (vitamin A-deficient) and rats given a complete diet were inspected microscopically and histologically for the presence of 3,4-benzpyrene and for pathological changes. Such changes and accumulation of the carinogen were noted earlier in vitamin-deficient rats (within 60 days) than in control rats (100 days). Moreover 7 of 25 control rats survived up to 1 year while all vitamin-deficient rats died in 90 days. Though appearing earlier, the pathological changes in vitamin-deficient rats were comparable to those in control rats: Terminal conditions included adenoma and epithelial proliferation in the lungs, hepatitis, uncornified squamous cell thelial proliferation in the stomach. Thus A-hypovitaminosis facilitates appearance of a cancerous condition in the presence of a carcinogen.

USSR

UDC: 681.326.7

VUL'MAN, I. D., DOROGOV, A. Ye.

"A Method of Detecting and Preventing Incipient Failures in Electronic Systems Based on Measuring and Analyzing Output Signals at Several Points in the Monitored System"

Moscow, Otkrytiya Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 8, Mar 73, Author's Certificate No 367428, Division G, filed 12 Sep 67,

Translation: This Author's Certificate introduces a method of detecting and preventing incipient failures in electronic systems based on measuring and analyzing output signals at several points in the monitored system. As a distinguishing feature of the patent, the effectiveness of prediction is improved by isolating subsystems in the monitored system where the output signal is independent of the amplitude of the input signal within predetermined limits. The output signals of these subsystems are mixed and resolved into frequency components, and the voltages of the different frequencies are then compared with standards. The subsystem of the monitored system for which the resultant signals are greater than the permissible

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VUL'MAN, I. D., DORGGOV, A. Ye., USSR Author's Certificate No 367428

level is isolated, and the voltages at the output of each element of this isolated subsystem are compared, for a fixed input signal, with the voltages resulting at the output of this element as standard elements are successively connected to it. From the resultant difference waveforms, signals are shaped which correspond to the monitored parameters of the subsystem element. These signals are compared with the nominal values, and the greater than the permissible limit.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UDC 681.34

DOROGOV, A. TE., BOLOTOV, B. V., KIRILLOV, V. G., OGURTSOV, K. A., PRYASHNIKOV, V. M., and REMIZOV, B. A.

"Analog-Digital Decision, Regulating, and Control Computer"

USSR Author's Certificate No 258744, filed 17 Nov 62, Moscow, Otkrytiya Izobreteniya Promychlennyye Obraztsy i Tovarnyye Znaki, No 1, Jan 70,

Translation: An analog- digital decision, regulating and control computer which consists of an adder and memory unit, problem inout unit, desk is presented. Its special feature is the fact that for the purand memory units are connected with increased versatility, the adder positioning coefficients and the multiplier. The output device for device for positioning coefficients is connected to the first input of the multiplier, and the computer input is connected to the second input of the multiplier through the problem input unit.

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Acc. Nr: Abstracting Service: Ref. Code: CHEMICAL ABST. 5/30 UN 0409

and phenyl(1,2,5-trimethyl-4-hydroxy-4-piperidyl)-Prostakov, N. S.; Pleshakov, V. G.; Dorogov, V. V.; Zyolin-Prostakov, N. S.; Pleshakov, V. G.; Dorogov, V. V.; Zyolin-USR). Chim. Geterotsikl. Soedin. 1970, (1), 60-4 (Russ). To was added 91.2 g PhCH₂CO₂H in 300 ml C₆H₆, and to this 63 g hygroscopic product, which was heated with 500 ml MeOH and 45 ml concd. H₂SO₄ to give 52 g II [R = CHPhCO₂Me, R' = H], M. H. [R = CH₂CO₂Et, R' = H) (III) (6.87 g) 15 ml C₆H₆, and 5 ml pyridine with 8.5 g BzCl gave 1.5 g II.HCl (R = CH₂CO₂Et, R' = Bz) (IV), m. 195-7° (2:1 MeOH-Et₂O). Also prepd. m. 188-91° (EtOH); V picrate, m. 165-8° (EtOH)], and VI, b₁ 169-87°, also obtained in 70% yield by dehydration of V.

REEL/FRAME 19841736

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

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VI (30.3 g) in 200 ml C₄H₆ was passed during 8 hr through a tube filled with 100 ml catalyst K-16 at 420-30° to give 4200 ml gas (23°, 754 mm), and 16.3 g of a fraction, b_{0.5} 160-91°, from which 10 g rose VII, rn. 97-100° was obtained; VII.MeI m. 198-200.5° (EtOH); VII picrate m. 164-6° (EtOH); VII perchlorate m. 161° (EtOH). VII.MeI (1 g), 0.4 g p-Mc₂NC₆H₁CHO, 0.3 ml piperidine, and 25 ml EtOH gave 0.4 g VIII.MeI, m. 255-8° (EtOH), bright-red. II and V have 6-membered chelate rings through intramol. H-bonding.

فمعم

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19841737

USSR

UDC: 621.372.852.2

GOL'BA, V. A., DOROGOVA, S. I.

"Determination of the Scattering Matrix of a Waveguide Polarization Phase Shifter With a Complex Delta 180-Degree Section"

Tr. VNII fiz.-tekhn. i radiotekhn. izmereniy (Works of the All-Union Scientific Research Institute of Physicotechnical and Radio Engineering Measurements), 1970, vyp. 2(32), pp 84-90 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5A220)

Translation: Scattering matrix elements are determined for a waveguide polarization phase shifter with complex delta 180-degree section. Four illustrations, bibliography of six titles. Resumé.

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UDC 519.281

ANTOSHIN, V. A., DOROGOVA, S. I.

"The Problem of Accuracy of Determination of Parameters of Univariate Distribution by Method of Comparison of Distribution Rules"

Metody Predstavleniya i Apparaturn' Analiz Sluchayn. Protsessov i Poley. 3-y vses Simpozium. Sekts. 3, [Methods of Representation and Hardware Analysis of Random Processes and Fields. Third All-Union Symposium, Section 3--Collection of Works], Leningrad, 1970, pp 65-69, (Translated from Referativnyy Zhurnal Kibernetika, No. 5, 1971, Abstract No. 5V146 by Ya. Shor).

Translation: A method of determining the parameters of a distribution by minimizing the "distance" between the distribution and a distribution with variable parameters is studied for the case of a univariate distribution. Two types of "distances" are studied for the case of sets of two-parameter distributions with probability density $\frac{1}{a_2}$ p $(\frac{x-a_1}{a_2})$.

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USSR



UDC: 621.372.852.2

GOL'BA, V. A., DOROGOVA, S. I.

"Determination of the Scattering Matrix of a Polarization Phase Shifter With a Compound 180-Degree Section"

Dokl. Nauchno-tekhn. seminara "Metrol. v radioelektron." Tezisy. Ch. 1 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics. Summaries, Part 1), Moscow, 1970, pp 14-19 (from RZh-Radiotekhnika, No 6, Jun 70, Abstract No 6B212)

Translation: The scattering matrix of the phase shifter described in the title is determined in order to investigate the effect of mismatches on its transfer coefficient and reflection coefficient. It is shown that the magnitude of the reflected signal in such a phase shifter is an order greater than that in a phase shifter with a simple half-wave section, which limits its practical applicability. The feasibility of using double filters is discussed. Four illustrations, bibliography of five titles. N. S.

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BREY, V. V., DOROGOVTSEV, A. Ya., MAKOVETSKIY, O. A., POGORELYY, L. V.

"Optimal Selection of a Cutting Interval"

Teoriya Veroyatnostey i Mat. Stat. Mezhved. Nauch. sb. [Theory of Probabilities and Mathematical Statistics, Interdepartmental Scientific Collection], 1972, No 7, pp 14-22 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1975, Abstract No 1 V142 by the authors).

Translation: Let ξ_1 , ξ_2 , ..., ξ_n , ... be a sequence of independent, identically distributed random quantities, having exponential distribution and sequence $\xi_1, \xi_1 + \xi_2, \xi_3 + \xi_2 + \xi_3, \ldots, \xi_1 + \xi_2 + \ldots + \xi_n, \ldots$ of points in $\{0, \infty\}$; let τ be the number of points in the sequence of partial sums falling in the intervals

 $[\sigma, \sigma+\tau], [2\sigma+\tau, 2\sigma+2\tau], \dots$..., $[N\sigma+(N-1)\tau, N\sigma+N\tau](N(\sigma+\tau))=L$

fixed, N is a positive integer). The problem is studied of determining the minimum value of τ for which the inequality $P\{\mu \ge k\} \ge p(k \text{ and } p \text{ are fixed})$, point in each of the intervals with a fixed probability.

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VDC 519.281

DOROGOVTSEV. A. YA.

"A Nonparametric Evaluation of Regression Functions"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Theory of Probability and Mathematical Statistics, Interdepartmental Scientific Collection), No 4, 1971, pp 61-64 (from Referativnyy Zhurnal -- Matematika, No 9, Sep 71, Abstract No 9V236)

Translation: A nonparametric linear evaluation of regression functions based on independent observations is proposed and its properties are examined.

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USSR

UDC: 519.281

DOROGOVTSEV, A. Ya.

"On a Nonparametric Estimate of a Regression Function"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1971, vyp. 4, pp 61-64 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V236)

<u>Translation</u>: The article proposes a nonparametric linear regression function estimate from independent observations. The properties of the estimate are discussed.

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UDC: 621.372.852.3(088.8)

USSR

BARLASOV, R. L., DOROGUSHKIN, L. V., KARPUSHIN, P. N., KUNAVIN, V. V., MYASNIKOV, N. I., YAKUNIN, V. A.

"An Automatic Polarization Attenuator"

USSR Author's Certificate No 259198, filed 4 Dec 68, published 28 Apr 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 118174 P)

Translation: The proposed attenuator consists of two fixed waveguide adapters, a movable section with an absorbing plate, a readout instrument, a rod linkage and a step-by-step drive motor. The rod linkage is made up of three levers mounted on a common frame. The drive lever is rigidly fixed to the axis of the drive motor, and the driven lever is secured to the axis of the movable section. These levers are hinged together through the third lever. The length of the levers is selected in such a way that the linkage has a transfer ratio determined from calculating the permissible value of signal attenuation per step of the drive motor for the entire range of rotation of the movable section. The attenuator provides a linear change in attenuation. Two illustrations. A. K.

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UDC 669.18-412:621.746.753

KIEPESHOV, G. A., DOROKHOV, V. I., PALYANICHKA, V. A., and LITVINOVA, V. I. (Ukrainian Scientific Research Institute of Metals)

"Rational Method of Deoxidizing Silicon Manganese Steel for the Production of Thick Slabs"

Moscow, Stal', No 9, Sep 72, pp 798-801

USSR

Abstract: The effect of preliminary and final reduction of 09G2S siliconmanganese steel (GOST 5520-69) on the process kinetics of the formation and removal of non-metallic impurities and on the variation of residual concentrations of deoxidizing elements (Al, Mm, Si, Ti) during casting and crystallization of 9-m slabs is considered. The investigation was carried out on four smeltings produced in 135-m open-hearth furnaces with silicon-manganese domes at the Zhdanov Metallurgical Plant. Preliminary reduction in the furnace by manganese-silicon was shown to be more effective than introducing it into the ladle together with ferrosilicon, aluminum, and ferrotitanium. A further advantage is that there is less contamination of the metal with oxide impurities and there is a more uniform distribution between the upper and bottom slab The residual Al content increased from thousandths of a percent to 0.016-0.00% (about 5 to 6 times) and slab rejection due to unsatisfactory indexes of impact strength at low temperatures is practically eliminated.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

Foundry

USSR

UDC 669.18:621.746.58

DOROKHOV, V. I., PALYANICHKA, V. A., KLEMESHOV, G. A., YEVTYUTOV, V. P., GLAZOV, V. I., PANASENKO, V. G., RYABININ, B. G., and ROSTORGUYEV, V. D., Ukrainian Scientific Research Institute of Metals

"Casting of Large Sheet Ingots of Low-Alloy Steel Under Protective Slag Coating"

Moscow, Metallurg, No 3, Mar 72, pp 17-19

Abstract: Joint investigations of the Ukrainian Scientific Research Institute of Metals and the Zhdanov Plant imeni Il'ich, revealed that stratifications in sheets of silicomanganous steel can be caused by accumulations of macro-inclusions of endogenic origin or increased content of hydrogen. Experiments in casting sheet ingots of silicomanganous steel 09G2S, weighing 118-27.0 tons, under a protective coating of synthetic slag, are described. The experiments were conducted in order to decrease stratifications resulting from nonmetallic impurities. It was found that by using slag with optimum physico-chemical properties in casting steel, the content of oxide inclusions can be lowered by more than 30% and stratifications can be practically eliminated in thick sheets. The nonmetallic inclusions do not change 1/2

DOROKHOV, V. I., et al., Metallurg, No 3, Mar 72, pp 17-19

character, but are merely redistributed, and a refining of metal from oxides, particularly from alumina, takes place. One illustration, two tables.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

USSR

DOROKHOVA, I. Ye., IVANOV, Ye. F.

"Software for the Solution of Certain Problems in Automation of Drawing"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 46, Novosibirsk, 1971, pp 175-178, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V702).

NO ABSTRACT.

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UDC: 621.396.6-181.48

AFANAS'YEV, V. Ya., DOROKHOVA, L. B., PETROVA, V. Z.

"Investigation of the Possibility of Using Lo-Melting Glass for Insulation Between Layers in Thin-Film Microcircuits"

Sb. nauch. tr. po probl. mikroelektron. Mosk. in-t elektron. tekhn. (Collected Scientific Works on Problems of Microelectronics. Moscow Institute of Electronic Technology), 1972, vyp. 8, pp 102-108 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8V311)

Translation: The paper deals with the general requirements to be satisfied by silicate dielectrics for interlayer insulation. A study is made of low-melting glasses in the SiO₂-FbO-ZnO-B₂O₃ system. Films 5-10 µ thick were produced by sedimentation of glass powder on a pyroceramic substrate with microcircuit made by gold vaporization. The sedimentation was done from a glass suspension in ethyl acetate with centrifuging (2500-3000 rpm). The structure of the resultant films was studied by infrared spectroscopy. A study was also made of the moisture and heat resistance of the films and their electrical parameters. Three illustrations, bibliography of four titles. N. S.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UNCLASSIFIED PROCESSING DATE--160CT70,
TITLE--EARLY MORPHOLOGICAL CHANGES IN THE LIVER FOLLOWING ITS COMPLETE
ISOLATION FROM GENERAL CIRCULATION -UAUTHOR-(05)-BELINSKAYA, A.M., PLIKH, M.B., GONCHARDY, A.L., GORYACHEY,
S.P., DOROKHOVA, L.P.
COUNTRY OF INFO--USSR

SOURCE--ARKH. PATCL. 1970, 32(2), 70-3

DATE PUBLISHED ---- 70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIVER, BLOOD CIRCULATION, INHIBITION, HISTOCHEMISTRY, GLYCOGEN, RNA, NECROSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRANE--1996/0579

STEP NO--UR/9056/70/032/002/0070/0073

CIRC ACCESSION NO--APOL17807
UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

PROCESSING DATE--160CT70

UNCLASSIFIED 2/2 024 CIRC ACCESSION NO--APO117807 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NO PATHOMORPHOL. AND HISTOCHEM. CHANGES WERE DOSU. IN DOG LIVERS 20 MIN SUBSEQUENT TO THEIR ISOLATION AFTER 40 MIN, THE FUNCTION OF THE ORGAN WAS FROM GENERAL CIRCULATION. DIMINISHED AND DYSTROPHIC CHANGES WERE FOUND IN PARENCHYMA. THE CONTENT OF GLYCOGEN AND RNA IN CELLS WAS REDUCED. AFTER 60 MIN. NECROBIOTIC CHANGES OF PARENCHYMA WERE OBSD. AS WELL AS DECREASE OF GLYCOGEN AND FACILITY: KAZ. INST. NUCLEIC ACIDS CONTENT OF HEPATUCYTES. KLIN. EKSP. KHIR., ALMA-ATA. USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

USSR UDC 547.34

DOROKHOVA, V. V., RATOVSKIY, G. V., KOLBINA, V. Ye., GRECHKIN, Ye. F., and KALABINA, A. V., Irkutsk State University imeni A. A. Zhdanov

"Spectral Manifestations of Intramolecular Interactions in Unsaturated Phosphorus Acid Chlorides"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 10, Oct 73, pp 2172-2178

Abstract: Bathochromic shifts observed in the UV spectra of β -phosphorus substituted vinyl esters and styrenes as well as increased extinction coefficients ϵ and vibrational forces f of the absorption bands can be related to the interaction of phosphorus containing groups with the unsaturated fragments. It was shown that the interaction of the unsaturated fragment with PCl₂, P(0)Cl₂, P(S)Cl₂ groups is expressed much stronger than in respective unsaturated derivatives containing an alkyl radical at the phosphorus atom. The 190, 225 and 260 mmicron bands in the phosphone substituted vinyl alkyl and vinyl phenyl ethers and in styrenes are related to electronic transitions from the occupied π orbitals of unsaturated fragments onto the orbitals containing in addition to the π orbitals of the unsaturated fragment also vacant orbitals of the phosphorus containing groups.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UNCLASSIFIED PROCESSING DATE--160CT70
TITLE--INTERACTION OF STRUCTURAL GROUPS IN MOLECULES CONTAINING A
PHOSPHORUS ATOM AT THE DOUBLE BOND -UAUTHOR-(05)-RATOVSKIY, G.V., DOROKHOVA, V.V., FROLOV, YU.L., GRECHKIN,
YE.F., KALABINA, A.V.
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1124-7

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IR SPECTRUM, ORGANIC PHOSPHORUS COMPOUND, MOLECULAR ORBITAL, ELECTRON CLOUD, CHLORINE, EXCITATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

PROXY REEL/FRAME--1995/1591

STEP NO--UR/0200/70/190/005/1124/1127

CIRC ACCESSION NO--ATOLIG999

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

PROCESSING DATE--16UCT70 UNCLASSIFIED 2/2 030 CIRC ACCESSION NO--ATO116999 ABSTRACT. IR SPECTRAL DATA WERE TABULATED IN ABSTRACT/EXTRACT--(U) GP-0-DETAIL FOR ROCH: CHPOCL SUB2 RPCH: CHPCL SUB2, ROCH: CHPSCL SUB2, AND ROCH: CHPO(ORPRIME1) SUB2, AS WELL AS PHOH: CHPCL SUB2, PHOH: CHPOCL SUB2, PHCH: CHPSCL SUB2 AND PHCH: CHP(U)ET SUB2, WHERE R WAS SELECTED FROM ET, BU, PH OR-P-BRC SUB6 H SUB4, AND R PRIME! EQUALS ET OR BU; ALSO INCLUDED FROM THESE DATA THE COMPARISON MADE WITH THE WAS PHOCH: CBRPSCL SUB2. CALCD. MO ENERGY LEVELS OF MEP(0)CL SUB2, CH SUB2: CHPOLC SUB2, AND MEOCH: CHPOCL SUB2 SHOWED THE CLEARLY POLAR NATURE OF BOTH THE P(O) AND THE P(CL) BONDS IN THESE COMPDS. THE D ORBITALS OF CL AND P TAKE ALMOST NO PART IN FURMATION OF THE MOLECULAR ORBITALS OF THE OCCUPIED CATEGORIES, BUT THEY DO DET. THE NATURE OF THE RELATIVELY LOW 2, 4 AND 11 VACANT ORBITALS OF THESE MOLS. AS A RESULT THESE MOLS. CAN BE EXPECTED TO SHOW ENHANCED ELECTRONIC POLARIZABILITY AND LOW EXCLIBITION ENERGIES. THUS, THE PRESENCE OF A POCL SUB2 GROUP AFFECTS THE POLARIZABILITY OF THE ELECTRON CLOUD OF THE DOUBLE BOND, WHILE ALTERATION IN THE DISTRIBUTION OF THE LATTER AFFECTS THE PROPERTIES OF THE P CONTG. GROUPING, WITH SOME PARTICIPATION OF THE CL ATOMS IN THIS FACILITY: IRKUTSK. GOS. UNIV., IRKUTSK. USSR. PROCESS.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

USSŘ^{*}



RATOVSKIY, G. V., DOROKHOVA, V. V., FROLOV, YU. L., GRECHKIN, YE. F., and KALABINA, A. V., Irkitsk State University imeni A. A. Zhdanov, Irkutsk, Ministry of Higher and Secondary Specialized Education RSFSR; Irkutsk Institute of Organic Chemistry, Irkutsk, East Siberian Affiliate, Siberian Department, Academy of Sciences USSR

"Interaction of Structural Groups in Molecules Containing a Phosphorus Atom at a Double Bond"

Moscow, Doklady AN SSSR, Vol 190, No 5, Feb 70, pp 1124-1127

Abstract: The effect of phosphorus containing groups on beta-substituted vinyl esters is manifested by a 20-30 cm⁻¹ shift towards lower frequency of the double bond valence vibration and a 3-4 fold increase in the intensity of I_{1620}^{∞} . Presence of groups such as -PCl_2 , $\text{-P}(0)\text{Cl}_2$, $\text{-P}(5)\text{Cl}_2$ in vinyl aryl esters affects the characteristics of the phenyl ring, due to the intramolecular interaction of the phosphorus group with \mathcal{F} -electrons of the $C_6H_5CH:CH$ - radical system. The intensity of the symmetric and and antisymmetric vibrations of the -PCl_2 group changes considerably on interaction with double bonds. Substitution of a phenyl radical for an

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RATOVSKIY, G. V., et al., Doklady AN SSSR, Vol 190, No 5, Feb 70, pp 1124-1127

alkyl radical almost doubles the $I_{460+490}^{\infty}$ value. Consequently, I_{450}^{∞} of the symmetric vibration line of the P-Cl bond in -P(S)Cl₂ increases in a series of butyl, phenyl, p-bromophenyl vinyl esters and in styrenes. The authors conclude that presence of a POCl₂ group should have an effect on the polarizability of \mathcal{N} -electron cloud.

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1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70 TITLE--POTENTIOMETRIC TITRATION OF HOLYBOOSILICIC ACID -U-

AUTHOR-(02)-DOROKHOVA, YE.N., OPARINA, L.1.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 544-7

SATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POTENTIOMETRIC TITRATION, MOLYBDENUM COMPOUND, SILICON COMPOUND, ORGANOTIN COMPOUND, NAPHTHOL, SULFUNIC ACID, ASCORBIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--3005/0004

STEP NO--UR/0075/70/025/003/0544/0547

CIRC ACCESSION NO--APOL32304

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

PROCESSING DATE--13NOV70 UNCLASSIFIED CIRC ACCESSION NO--AP0132304 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POTENTIOMETRIC TITRN. OF THE ALPHA FORM AND BETA FORM OF MOLYBOOSILICIC ACID WITH SNC SUB2 0 SUB4.2H SUB2 C. I, AMING, 2, NAPHTHOL, 4, SULFONIC ACID (I), AND ASCORBIC ACID WAS STUDIED. POTENTIAL JUMPS WERE OBSERVED WHEN BOTH FORMS WERE TITRATED WITH SNC SUB2 O SUB4 OR WHEN THE BETA FORM IS TITRATED WITH I. THE AMT. OF TITRANT VARIES IN DIRECT PROPORTION TO THE SI CONCN. THE FITRN. WITH I IS PREFERRED BECAUSE IT IS STABLE AND IN AIR IT CAN 65 USED WITHOUT CO SUB2. THE TITRN. IS CARRIED OUT AT AN ACIDITY FORMING THE YELLOW FORM AND IT PREVENTS THE PARTIAL DESTRUCTION OF MOLYBOOSILICIC ACID. ADJUST AN ALIQUOT. CONTG. 0.5-50 MG SIO SUB2 TO 2 WITH N H SUB2 SO SUB4, THEN AUD 2 ML 10PERCENT AMMONIUM MOLYBDATE, AND AFTER 10 MIN DIL. TO 50 ML. FACILITY: MOSCOW STATE UNIV., MOSCOW, USSR. TITRATE WITH I. UNCLASSIFIED

Pharmacology and Toxicology

USSR

UDC 615.212.3-015:616.831.31-07

BATRAK, G. Ye., and DOROKIN, A. G., Department of Fharmacology, Dnepropetrovsk Medical Institute

"The Effects of Amidopyrine on the Functional State of the Cerebral Cortex"

Kiev, Vrachebnoye Delo, No 9, 1973, pp 113-115

Abstract: Studies conducted on pentobarbital sodium-anesthetized cats in which amidopyrine was administered intravenously or applied directly to different cortical regions indicated that the stimulant activity that this drug exhibits for the CNS is due to its effects on the cutaneous, auditory, and visual representations on the cortex. The most susceptible region was cutaneous in which the evoked potential increased two-to three-fold. To an even greater extent the amplitude of the negative phase of the evoked potential was increased. These findings do not exclude possible effects of amidopyrine at the subcortical level, but indicate that the stimulating effects of this drug involves the reflex activity of the CNS.

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1/2 012

UNCLASSIFIED TITLE--REDUCTION OF HYDROGEN ION AN THALLIUM -U- PROCESSING DATE--18SEP70

AUTHOR-(02)-KABANOVA, O.L., DORONIN, A.N.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(2), 222-4

DATE PUBLISHED ---- 70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGEN ION, THALLIUM, REDOX REACTION, OVERVOLTAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1989/0692

STEP NO--UR/0364/70/006/002/0222/0224

CIRC ACCESSION NO--APO105668

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UNCLASSIFIED PROCESSING DATE--18SEP70 CIRC ACCESSION NOT-APOLOS668

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. CURVES OF H GVERVOLTAGE VS. LOG C.D. ON A TL CATHODE IN (I) O.I NU HCLO SUB4, (2) O.O1 NU HCLO SUB4, AND (3) O.O1 NU HCLO SUB4 PLUS O.I NU NACLO SUB4 WERE OBTAINED. THE (I) CURVE HAS AN INFLECTION AT APPROX. NEGATIVEO.8 V (VS. STD. H ELECTRODE), NEAR THE TL ZERO CHARGE POINT (NEGATIVEO.82 V). THE LOWER BRANCH OF THE (2) CURVE IS ABOVE THAT OF THE (I) CURVE, WHILE THE UPPER BRANCHES OF THESE CURVES PRACTICALLY COINCIDE. THE (3) CURVE SHOWS A GENERAL LOWERING OF THE H OVER VOLTAGE WITH RESPECT TO THE OTHER 2.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

MEDICINE

Aerospace Medicine

USSR

DORONIN, G., Candidate of Medical Sciences, NEFEDOV, Yu., Doctor of Medical Sciences, and SALMANOV, L.

"The Exam Was Passed"

Moscow, Izvestiya, 20 Jun 70, p 4

Translation: Each spaceflight is preceded by long preparations on the ground. Numerous teams work on building the carrier rocket and the spaceship and on thoroughly testing a multitude of systems whose faultless functioning will ensure flight safety and normal living conditions in orbit. There are no trifles in this responsible work. The thoroughness with which each flight is prepared is crucial for the cosmonauts' life and the success of the experiment, which costs the effort of many thousands of persons who have devoted themselves to exploring and gaining mastery over the cosmos. In this article, the life support system and the medical monitoring setup developed for the Soyuz-9 spaceship are discussed.

The long flight of commnauts A. Nikolayev and V. Sevast yanov was carefully prepared by specialists of the most diverse specialties. As technical implementation of the Soyuz-9 space project progressed, new complex problems emerged, and the group of creative men participating in solving these problems gradually increased. After the various life support systems were designed and built, a long series of 1/5

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

USSR

DORONIN, G., et al., Izvestiya, 20 Jun 70, p 4

complex tests of these systems, and ground experiments began. Comprehensive tests were conducted in a mock-up on a real-time scale and with the participation of especially selected and trained test pilots. This was the "dress rehearsal" before the actual flight.

The length of the flight significantly changes not only the number of tasks, but also their division into "main" and "secondary" problems. Factors which in short flights had no independent significance and were practically disregarded, now become of primary significance for selecting the most rational design of the life support systems.

It was especially important to create a reserve capacity of the system regenerating and conditioning the atmosphere in the ship in accordance with the oxygen consumption and carbon dioxide production of the crew members. It is known that this gas exchange depends on the nature of the work to be done, the total work load, the type of food eaten, and to a significant degree on the individual physiological traits of each man. In view of this, persons with various metabolic rates participated in the performance of these tests.

The cosmonauts' work and rest schedule was the same as in a real flight. In addition to periods assigned for sleep and rest, the schedule strictly regulated the periodicity and duration of space duty-watches, communication sessions,

USSR

DORONIN, G., et al., Izvestiya, 20 Jun 70, p 4

pressure of the gas environment. All means and methods used for the medical monitoring of the cosmonauts' health were thoroughly tested. In particular, measures were developed to prevent skin irritation, which could develop from prolonged wearing of certain belt systems supporting sensors and electrodes recording physiological parameters. It was decided that the cosmonauts should periodically shift the electrodes to other skin areas and take off the belt systems between successive communication sessions.

The effects of weightlessness on the body are magnified during a prolonged spaceflight. To maintain the cosmonauts' physical fitness at the level attained through previous training, special physical exercises were worked out and tested. The physical training plan specified systematic static and dynamic exercises performed by basic muscle groups to maintain the force, endurance, speed, and accuracy of motor reactions at a high level. The absence of the accustomed gravitational force in space had to be considered. Therefore, a simple, comfortable training suit raising the effectiveness of the exercises was designed. It is essential that there be no significant changes in the air composition in the cabin during intensive physical exercises.

When preparing for a long spaceflight it is necessary to make provisions for an adequate supply of food and water, collection and storage of waste materials,

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1" DORONIN, G., et al., Izvestiya, 20 Jun 70, p 4

medical tests, performance of special measurements and tests according to the flight's program, physical training, food intake, and so on.

It was necessary to change the normal sleep and wake periods, and this by itself was quite a strain on the body. Therefore, psychophysiologists thoroughly evaluated all individual versions of the "cosmic diurnal cycle", which ensured the high work capacity required for safe control of the ship and all its systems.

The work and rest periods were recorded throughout the test. This method, in conjunction with direct measurements of gas exchange during performance of various tasks, made it possible to evaluate the average daily norms of oxygen consumption and carbon dioxide production which were used to design the life support systems for spaceships. As a result, considerable simplifications were made in the operation of the atmosphere regenerating and conditioning system. In the final stage of the tests, the gas environment in the inhabited compartments was maintained at an optimum level, in which the partial oxygen pressure fluctuated from 160-170 mm Hg and the carbon dioxide pressure from 5-7 mm Hg.

Gaseous products of human vital activity (ammonia, amines, hydrosulfides, methane, indole, and so on), which are toxic even in small concentrations, were maintained throughout the test at a level lower than maximum permissible limits.

A comparison with standard measurement methods showed that the equipment used on board ensured perfect control of the composition, temperature, humidity and 3/5

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and maintenance of personal and general hygiene.

Food rations were prepared with careful consideration of the cosmonauts' individual tastes and habits. At the same time, the rations had to contain the right amount of calories and the proper proportion of proteins, fats, carbohydrates, salts, and vitamins. During the long ground tests, the gustatory attributes of all food products were preserved, and the rations were approved by the cosmonauts. This objective was partly facilitated by the use of special devices for heating the meals, which were packaged in appropriate tubes.

How did the cosmonauts take care of their personal hygiene? During the preparations of short flights, we had never acutely faced such problems as daily shaving, periodic hair and nail cutting, the collection of waste products. During the tests performed on earth, the cosmonauts had the opportunity to wash and change their underwear each week. This proved the effectiveness of personal hygiene on board a

spaceship.

The final stage of the complex testing in the mock-up of the spaceship proceeded practically without incident. The whole program was successfully worked out, and

all life support and medical control systems were appraised positively.

The long flight of the Soyuz-9 spaceship demonstrated that all its systems passed the severe test in the orbit. Throughout the 18 days of the flight, the spaceship maintained favorable conditions for the life and work of the brave toilers in space, A. Nikolayev and V. Sevast'yanov.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

USSR UDC 612.821.6

AGADZHANYAN, N. A., DORONIN, G. P., and YELFIMOV, A. I.

"The Effect of Pressure Chamber Training on Chain Motor Conditioned Reflexes in Rats"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, Vol 22, No 1, Jan/Feb 72, pp 37-45

Abstract: Experimental rats were subjected to training in the pressure chamber at a simulated altitude of 5,000 m. Rats were kept in the chamber for 1.5 to 4 hr/day for 10 days. Before and after the chamber training, the animals were exposed to a simulated altitude of 10,000 m and in some cases to 12,540 m. One group of rats was conditionally trained to get food by a combination of reflexes. Glomectomy was performed on another group of rats before training in the pressure chamber. The third group was trained at 3,200 m altitude in Tuya-Asha mountains, and their survival was checked exposing them step-wise to a 12,000 m simulated altitude at a rate of 25 m/sec, In the case of untrained animals in the first group, severe and prolonged disturbances in conditioned food reflexes were observed, starting with the 5,000 m altitude. A complete inhibition of these reflexes was observed at 7,000-8,000 m altitude. Adaptation to hypoxia in the course of 10-day 1/2

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AGADZHANYAN, N. A., et al., Zhurnal Vysshey Nervnoy Devatel nosti, Vol 22, No 1, Jan/Feb 72, pp 37-45

training in the pressure chamber secured the necessary physiological shifts, which were expressed in a more effective use of oxygen. This prevented severe disruption of motor reflexes and facilitated the readjustment of rats to high altitude conditions. In animals devoid of sinocarotid receptor zones, the adaptation to severe hypoxia was very slow (3 rats died at 5,000 m during the first two days, and others perished at 10,000 m). This indicates the importance of chemoreceptors in the compensatory-adaptive reactions of the animal organism.

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dengala kadin kata alikah kali kali kali anta ara 1816. Pangalay isa terpagai sebagai

UDC: 533.6.011.72

DORONIN, G. S., STUPNIKOV, V. P., ROMAN'KOV, V. V., BELENKIY, V. Ya., ZASLAVSKIY, B. I., and BATSANOV, S. S.

"Compression of Plexiglass Cylinders by Glancing Detonation Waves"

Leningrad, Zhurnal tekhnicheskoy fiziki, No 5, 1973, pp 1059-1064

Abstract: This article pertains to the physical-chemical investigation of materials, subject to dynamic compression, which are kept in cylindrical containers under glancing detonation waves. Research of this type is now being intensively pursued. The purpose of this paper is to investigate the irregular reflection of shock waves in plexiglass cylinders under compression by glancing detonations, by a method suggested in an earlier article (G. A. Adadurov, et al, Fiz. gor. vzrvva, vol 3, No 2, p 281, 1967). This method proposed using, as a model of the cylinder, plexiglass cylinders observed by high-speed photography to investigate the picture of the air flow through the fine, scintillating gaps between the plates composing the cylinders. A description is given of the explosive material used in the experiments and, briefly, of the experimental equipment. Results of the experiments are given in the form of curves of the change in velocity of the shock waves and

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UDC: 533.6.011.72

DORONIN, G. S., et al, Zhurnal tekhnicheskoy fiziki, No 5, 1973, pp 1059-1064

the relative dimensions of the main shock wave as functions of the cylinder length. A description of the picture of the phenomenon is given together with an explanation of the results as shown by

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

1/2 009 UNCLASSIFIED PROCESSING DATE--300CT70
TITLE--CALCULATION OF SHOCK ADIABATS OF MIXTURES AND POROUS MATERIALS -U-

AUTHOR-(02)-DORONIN, G.S., STUPNIKOV, V.P.

COUNTRY OF INFO--USSR

SOURCE-IZV. SIB. OTD. AKAD. NAUK SSSR. SER. TEKH. NAUK 1970, (1), 102-5

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POROUS METAL, LITHIUM FLUORIDE, SODIUM CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REEL/FRAME--1998/1336

STEP NO--UR/0288/70/000/001/0102/0105

CIRC ACCESSION NO--APO121829

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UNCLASSIFIED PROCESSING DATE-300CT70 CIRC ACCESSION NO-APO121829

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. AN INVESTIGATION OF THE SHOCK ADIABATS OF MIXTS. OF NACL AND LIF POWERS REVEALS THAT THE ENERGY OF A POROUS BODY DURING SHOCK COMPRESSION IS COMPOSED OF THE COMPRESSION ENERGY AND THAT OF CLOSING THE PORES, AND THAT THE FORMATION OF A FRONT WITH A THICKNESS AT LEAST SEVERAL TIMES THAT OF THE SEP. PARTICLES IS DETD. BY THE AV. D., AND NOT BY THAT OF THE SEP. PARTICLES. FACILITY: INST. TEPLOFIZ., NOVOSIBIRSK, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

USSR

UDC: 669.14:621.785:620.1

DORONIN, I. V., ZOZULYA, A. N., MAKHNEV, Ye. S., KHAPOV, V. A., and CHERNUKHA, A. I.

"Method for Estimating the Mechanical Characteristics of Steels Subjected to Thermomechanical Treatment"

Moscow, Zavodskaya laboratoriya, No. 5, 1971, pp 606-607

Abstract: A relatively simple method is described for modeling the thermomechanical treatment process in high-alloy steels of the austenite and transitional austenite-martensite classes characterized by high δ -phase stability. The disadvantage of the method is the low deformation rate, which prevents it from completely imitating the conventional thermomechanical treatment process. The method has been successfully tested in processing steels of the Khl7N5M2, Khl7N5M3, and Kh2lN5T types.

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Steels

USSR

UDC 669.14.018.85:620.186.8

KIDIN, I. N. and DORONIN, I. V. (Moscow Institute of Steels and Alloys)

"The Influence of Grain Size on Short-Time High-Temperature Strength of Steels and Alloys"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 3, 1970, pp 6-7

Abstract: The possibility of using the fine-grained structure of heat-resistant steels and alloys under service conditions at high temperature for short periods of time (from minutes up to 1 hour) was investigated. Experiments on short-time heat resistance were conducted on the IP-4 experimental setup in accordance with a method described earlier. The same setup was used for tests on prolonged heat resistance (more than 10 hr) in accordance with a standard method (GOST 101/5-62). The Khl2/20T3R and Kh25N16C7AR steels and Kh177TYu nickel alloy were tested. The results confirmed the assumption that the fine-grained structures of heat-resistant steels and alloys are stronger than the coarse-grained structure, within the range of relatively high temperatures considered. 3 figures, 6 references.

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UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--LFFECT OF GRAIN SIZE ON THE SHORT TERM HIGH TEMPERATURE STRENGTH OF
STEELS AND ALLOYS -U-

AUTHOR-(02)-KIDIN, I.N., DORONIN, I.V.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. DERAB. METAL. 1970, (3), 6-8

DATE PUBLISHED----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS-GRAIN SIZE, HIGH TEMPERATURE STRENGTH, HEAT PESISTANT STEEL, HEAT RESISTANT NONFERROUS ALLOY/(U)KH12N2OT3R STEEL, (U)KHN77TYU STEEL, (U)KH25N16G7AR STEEL

CONTROL MARKING-NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED PROXY REFL/FRAME--1989/1936

STEP NO--UR/0129/70/000/003/0006/0008

CIRC ACCESSION NO--APO108265

UNCLASSIFIED

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

UNCLASSIFIED PROCESSING DATE--02DCT70 CIRC ACCESSION NO--APO108265

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE POSSIBILITY WAS INVESTIGATED OF EMPLOYING A FINE GRAINED STRUCTURE OF THE HEAT RESISTANT STEELS AND ALLOYS UNDER THE CONDITIONS OF SHORT TERM SERVICE OF SEVERAL MIN TO 1 HR AT HIGH TEMPS. THE FOLLOWING STEELS WERE STUDIED: KH12N2OT3R, KHN77TYU WITH INTERMETALLIDE HARDENING, AND KH25N16G7AR HARDENED BY THE ALLOYING OF THE SOLID SOLN. IN GENERAL THE CONCLUSION IS THAT FOR SHORT TERM USE AT HIGH TEMPS. THE FINE GRAINED STRUCTURE IS PREFERRED.

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

USSR

UDC 615.849.19.015:612.845.1-086.3

KRASNOV, M. M., SAPRYKIN, P. I., DORONIN, P. P., NIKOL'SKAYA, G. M., AKOPYAN, V. S., and MAMEDOV, N. G.

"Electron-Microscopic Study of Tissues of the Eye Fundus Following Laser Coagulation"

Moscow, Vestnik Oftal'mologii, No 2, 1973, pp 9-12

Abstract: The changes produced in the tissue of the eye fundus following exposure to therapeutic doses of laser radiation were studied in experiments on pigmented rabbits of the chinchilla breed with the purpose of obtaining data pertaining to the optimum conditions of applying laser radiation for photocoagulation of the retina in the therapy of retinal detachment. Radiation in the energy range of 0.02-0.05 J + 0% (energy densities of 5.5-17.0 J/sq. cm.) emitted by a ruby laser was applied. The irradiated eye tissues were subjected to microscopic and electron-microscopic study on sacrificing the animals within periods of 10 min-3 wks after photocoagulation. The damage was apparently limited to the external layers of the retina and the pigmented epithelium and deeper layers were affected only slightly. Two types of damage to the retina and to the pigmented epithelium were observed, one due to mechanical effects of an explosive nature and another due to thermal coagulation effects. Within 2-3 wks the part of the photoreceptor apparatus at the site of the injury 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002200710008-1"

USSR

KRASNOV, M. M., et al., Vestnik Oftal'mologii, No 2, 1973, pp 9-12

produced by the radiation was substantially restored to a state in which it apparently was capable of functioning. The sclera was not affected. The study that had been conducted indicated that in the search for optimum conditions of laser irradiation one must attempt to reduce as far as possible mechanical effects and restrict the thermal effects to the layer of pigmented epithelium.

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